

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 38

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SHINSUKE YURA and SHINJI HORIBATA

Appeal No. 97-2457
Application No. 08/366,376¹

HEARD: May 5, 1999

Before BARRETT, DIXON, and BARRY, Administrative Patent Judges.
BARRY, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from a patent examiner's final rejection of claims 1, 2, 4, 6, 8, 10, 13, 14, 16-18, and 20-22. Claim 3 was canceled. Claims 5, 7, 9, 11, 12, 15, 19, and 23 were allowed.

We reverse.

¹ Application for patent filed December 29, 1994, which is a continuation of Application 08/006,756, filed January 21, 1993, now abandoned.

BACKGROUND

The appellants' invention is a flat-panel display device. The device comprises a first, i.e., a base, substrate 1, a front panel 2, and side walls 3. The base substrate 1 supports a plurality of second substrates 4 on which electron emitters 13 and a cathode electrode 6 are formed. Inside of the front panel 2, an anode electrode 7 is formed on fluorescent film 5, which is in turn formed on the inner surface of front panel 2. The interior space surrounded by the base substrate 1, front panel 2, and side walls 3 forms a vacuum region.

When an appropriate voltage is applied between the anode 7 and cathode 6, the electron emitters 13 emit electrons. The emitted electrons are accelerated toward the anode 7. After passing through the anode 7, the electrons strike the fluorescent film 5 causing the film 5 to emit light.

The invention is designed to facilitate manufacture of a large-sized display. To make such a large display, a manufacturer increases the number of second substrates 4.

Each second substrate 4 can be tested before incorporation into the display. Accordingly, the risk of having to discard an entire substrate and a large number of good emitters is reduced or avoided.

Claim 1, which is representative of the invention, follows:

A display device mounted in a vacuum area between a front panel and a first base substrate, said front panel including an element for emitting light when struck by electrons and an anode electrode, said display device comprising:

a plurality of second substrates each having a smaller area than said first base substrate and arranged side-by-side on and supported by said first base substrate, each of said second substrates having electron emitting elements arranged on a surface thereof and each of said electron emitting elements having at least one emitter in electrical interconnection with a cathode.

The prior art references of record relied upon by the examiner in rejecting the appealed claims follow:

Kuroda et al. (Kuroda)	4,084,114	Apr. 11, 1978
van der Wilk	4,950,949	Aug. 21, 1990
Spindt et al. (Spindt)	5,015,912	May 14, 1991
Nomura et al. (Nomura)	5,185,554	Feb. 9, 1993

(filed March 1, 1990).

Claims 1, 2, 4, 10, 13, 14, 16-18, and 20-22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Spindt in view of van der Wilk and Kuroda. Claims 6 and 8 stand rejected under 35 U.S.C. § 103 as being unpatentable over Spindt in view of van der Wilk and Kuroda further in view of Nomura.

Rather than repeat the arguments of the appellants or examiner, we refer to the briefs and the answer for the respective details thereof.

OPINION

In reaching our decision in this appeal, we have considered the subject matter on appeal, the rejection advanced by the examiner, and the evidence relied on by the examiner to support the rejection. We have also considered the appellants' arguments contained in the briefs along with the examiner's arguments in rebuttal contained in the examiner's answer. After considering the record before us, it is our view that the collective evidence replied on and the level of skill in the particular art would not have suggested

to one of ordinary skill in the art the obviousness of the invention in claims 1, 2, 4, 6, 8, 10, 13, 14, 16-18, and 20-22. Accordingly, we reverse.

Grouping of claims

The appellants state that for the appeal the claims should be considered as two separate groups. The first group comprises claims 1, 21, and 22. The second group comprises claims 2, 4, 6, 8, 10, 13, 14, 16-18, and 20. The appellants have further provided reasons why the claims of the groups are believed to be separately patentable in accordance with 37 C.F.R. § 1.192(c)(7) and Manual of Patent Examining Procedure § 1206.

Obviousness

In rejecting claims under 35 U.S.C. § 103, an examiner bears the initial burden of establishing a prima facie case of obviousness. A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person having ordinary skill in the art. If the examiner fails to establish

a prima facie case, his obviousness rejection is improper and will be overturned. In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). With this as background, we analyze the prior art applied by the examiner in rejecting the claims on appeal.

Regarding claim 1, the independent claim, the examiner observes that Spindt discloses a plurality of substrates 14, arranged side-by-side, with electron emitters 15 on a surface thereof. (Examiner's Answer at 3.) In the examiner's view, Kuroda teaches employing a first substrate 21 as a base or foundation for a second substrate 36. (Id. at 4.) Van der Wilk is cited for teaching deflection electrodes found in claim 2. (Id.) The examiner concludes that, in view of the two substrates of Kuroda, it would have been obvious to add a base substrate below the conductor 6 and substrates 14 of Spindt "for the purpose of providing a foundation for the leads and substrate." (Id.)

The appellants counter that Kuroda does not teach the use of multiple substrates. (Appeal Brief at 12-14.) They also

argue that neither Spindt nor Kuroda contains a suggestion to combine Kuroda with Spindt to obtain the claimed invention.

(Id. at 11-14.)

We agree with the appellants that Kuroda fails to disclose or fairly suggest the use of multiple substrates. Kuroda discloses a single "composite substrate." Kuroda, col. 3, ll. 31-32. The composite substrate comprises a "substrate layer" 21 and an "insulating film" 36 formed on the substrate layer. Id. at ll. 30-33. Kuroda's defining of element 36 as an insulating film belies the examiner's interpretation of the element as a second substrate. Van der Wilk also fails to disclose or fairly suggest the use of multiple substrates. Assuming arguendo that the prior art contained a suggestion to combine Kuroda and Van der Wilk with Spindt, the combination would not yield the claimed first and second substrates, with the first substrate providing a base for a plurality of the second substrates, as specified in claim 1. The addition of Nomura in the rejection of claims 6 and 8 does not cure this defect. Therefore, the examiner has not satisfied the initial burden of establishing a prima facie case of obviousness. For

these reasons, we cannot agree that the combination of Spindt, van der Wilk, and Kuroda would have suggested that subject matter of claim 1 or its dependent claims 2, 4, 10, 13, 14, 16-18, and 20-22 or that the combination of Spindt, van der Wilk, Kuroda, and Nomura would have suggested that subject matter of claim 1 or its dependent claims 6 and 8.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1, 2, 4, 6, 8, 10, 13, 14, 16-18, and 20-22 under 35 U.S.C. § 103 is REVERSED.

REVERSED

LEE E. BARRETT)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
JOSEPH L. DIXON)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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LANCE LEONARD BARRY)	
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